TotalRecovery™ USB Key

User's Guide

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Chapter 1: Introduction

1.1 Product Overview

TotalRecovery™ USB Key is a hard drive utility that backs up or clones hard drives or partitions. It creates a compressed archive file that contains all files, partition information and security information stored on a hard drive or CD/DVD. TotalRecovery™ USB Key can be used for various purposes. PC users can use TotalRecovery™ USB Key as a quick and easy way to back up and restore their data in the event of a system crash. System administrators can use it to dramatically reduce the time they spend restoring, reconfiguring or copying data onto the hard drives of many computers. Whether you need to back up, recover, protect or upgrade PCs, TotalRecovery™ USB Key is an all-in-one solution.

1.2 Features and Benefits

Complete Backup

Make a complete copy of your hard drive, including system settings, partition information, documents, photos and more; save it as a compressed image file. If you suffer a system or disk crash, virus attack or other failure, you can restore the entire system disk in minutes.

Clone Drives

Make a complete copy of your hard drive including system settings and partition information.

RAID Support

Supports most 0/1/5/10 hardware and software RAIDs.

Win-PE engine

100% compatible with existing hardware and future hardware.

Powerful Universal Restore

Restore files or images across different hard drives regardless of hard drive format, size, brand, or operating system; or clone your computer to a new hard drive.

Pre-Windows Recovery

TotalRecoveryTM USB Key works even when your operating system doesn't, allowing you to restore your system regardless of OS functionality.

Image Integrity Verification

Automatically ensures that backup images work properly.

Complete External Backup

Enables you to store your hard disk image on a USB hard drive.

CD/DVD Support

Use the built-in burner to save a copy of your hard drive on a CD or DVD

Bare Metal Restore

Copy a complete system image onto a brand new hard drive without needing to install an operating system first.

Partition Support

TotalRecoveryTM USB Key supports FAT32, NTFS, Linux EXT2/3 and other unknown partitions.

1.3 System Requirements

Storage Media

The following storage locations are supported:

- Hard Disk Drives
- Networked Attached Storages (NAS)
- Network Share Folders
- CD-R/RW, DVD-R/RW, DVD+R/RW
- USB Hard Drives and Storages
- PATA (IDE), SATA, SCSI, IEEE1394 (FireWire), USB 1/2.0 drives, ESATA and PC-Card storage devices

Supported Operating Systems

- Windows Vista Series(32-bit & x64)
- Windows 2008 Series(32-bit & x64)
- Windows XP Series(32-bit & x64)

- Windows 2003 Series(32-bit & x64)
- Windows 2000 Series(32-bit & x64)
- Linux
- Unix

CPU: Pentium-class processor or higher

- RAM: 512 MB
- Disk space: No installation required

Supported File Systems

- FAT16/32, NTFS, Linux Ext2/Ext3, ReiserFS, Linux Swap and other unknown partitions.

Chapter 2: Use TotalRecovery™ USB Key

2.1 Enter TotalRecovery™ USB Key

2.1.1 Boot via Start-up CD/DVD Disc

To use TotalRecovery™ USB Key with a Start-up CD/DVD Disc:

Insert the Start-up Disc and restart your computer, and then enter the BIOS to set the CD/DVD ROM as the first boot device.

2.1.2 Boot via Bootable USB Disk

To launch TotalRecovery™ USB Key with Bootable USB Disk:

1. Connect the USB device, start your computer, enter the BIOS to set the USB device as the first bootable option, and save your settings.

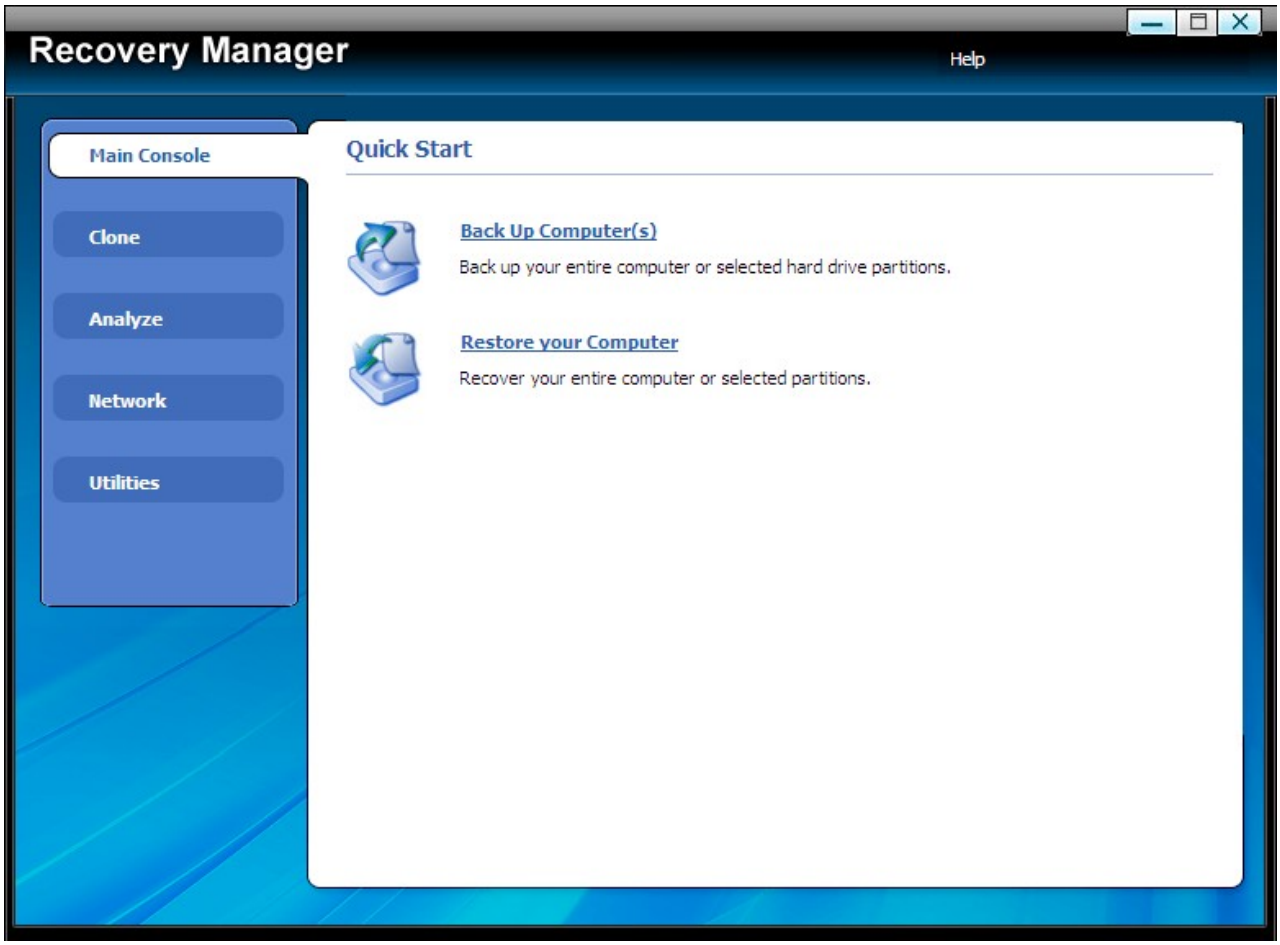
2. Restart the system and boot from the USB device.

3. Click **Yes** to back up the entire system to the USB device automatically. Or click **No** to enter TotalRecovery™ USB Key main console.

3. Verify all information about this complete backup, and then click **Next** to launch it.

4. Click **Finish** to complete the backup and return to main console.

2.2 TotalRecovery™ USB Key Main Console



2.2.1 Quick Start

Back Up My Computer – Click here to back up partition(s) or the entire hard drive for your system.

Restore Your Computer – Click here to restore from a complete backup point.

2.2.2 Back Up and Restore My Computer

2.2.2.1 Back up My Computer

1. Click on **Back Up Computer(s)** on the main console.

2. Enter a name for your new Complete Backup and click **Next**.

3. Select partition(s) or the entire hard disk to back up, and click **Next**.

Tip

1.If there is only one partition in a disk, select the partition and the program will select the disk automatically.

2. If there is only one disk, select the disk and the program will select the partition automatically.

4. Enter the storage path and click **Goto**. Or select a destination location on a hard drive, USB storage medium, or a network location to store the image file. Some optional settings will display if you click **Advanced**, including compression mode, password protection, image split, integrity check, backup description, backup priority, and network connection speed.

5. Click **Next**.

6. Review the information and settings that have been specified. Click **Next** to launch the backup process. Or click **Back** to modify setting(s).

7. Click **Finish** to return to main console.

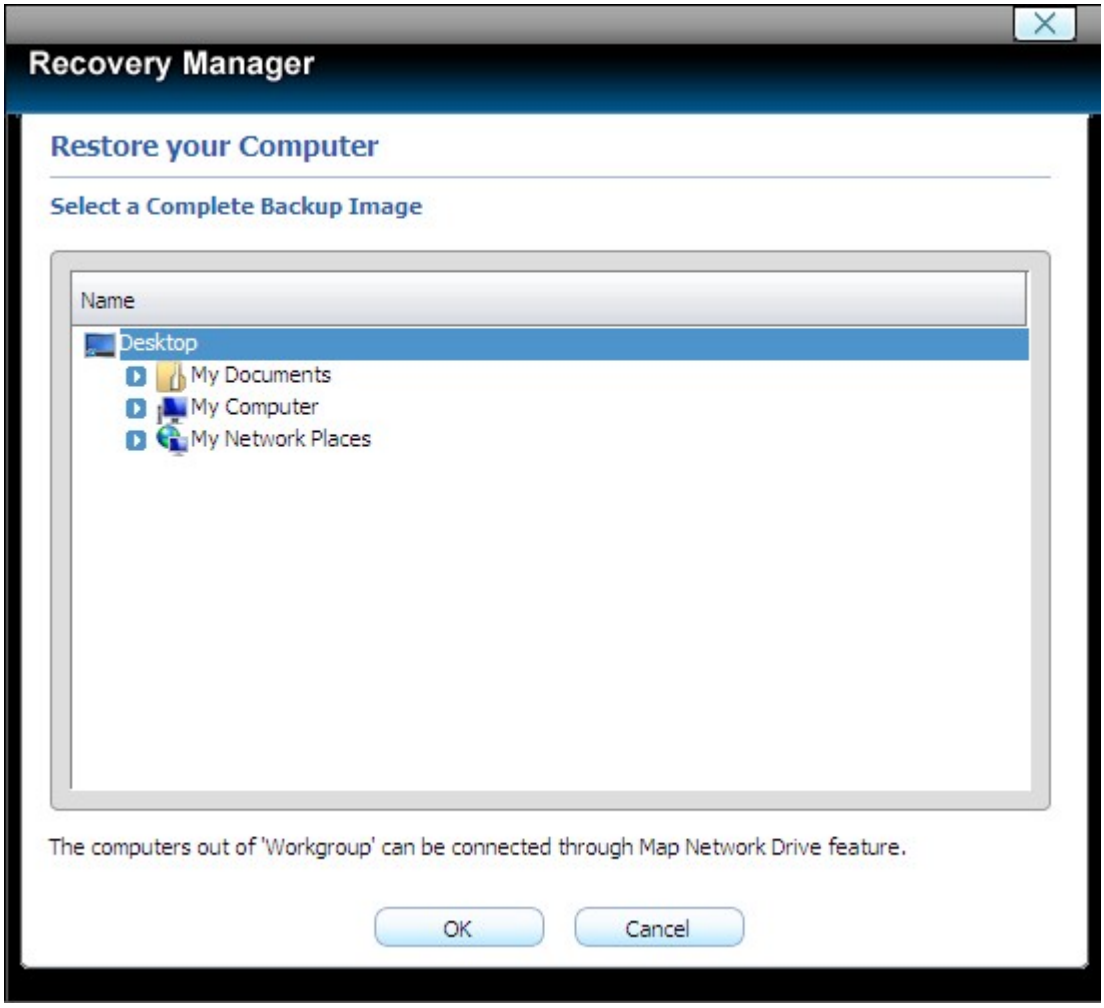
2.2.2.2 Restore Your Computer

To restore a partition or the entire hard drive, please do the following:

1. Enter into TotalRecovery™ USB Key main console.

2. Click on **Restore Your Computer**.

3. Select a backup image from the list and click **Next** to continue. If the backup image you want to use is not listed, click **Click here** to locate a complete backup that is not been listed.



4. Choose whether you'd like to restore a single partition or the entire hard drive, and click **Next**.

5. Select a destination partition or a destination hard drive to be restored from the image file, and click **Next**. If you choose to restore a single partition, click **Yes** to launch the restoration process.

6. To restore the entire hard disk, please select a restore option.

    a. Select the checkbox to modify the destination partition size.

    b. Don't select it for fear of information loss on multiple systems or hidden partition.

    If you selected option **a**, double click the partition Capacity to be resized from the list. If you selected option **b**, skip to step 8.

7. When it shows the structure of the destination partition, double click the highlight and modify its size, and click **Next** to continue.

8. Click **Next** to begin the restoration process.

2.2.2.3 Perform Universal Restore

To restore the system partition or the entire hard drive of a selected client to dissimilar hardware please do as follows:

1. Launch TotalRecovery™ **USB Key**.

2. Click on **Restore Your Computer**.

3. Select a backup image from the list and click **Next** to continue. If the backup image you want to use is not listed, you will be prompted to search for the image by clicking **Browse**.

4. Select to restore with **Universal Restore**, and click **Next**.

5. Select to restore a single partition or the entire hard drive, and click **Next**.

6. Select a destination partition or a destination hard drive to be restored from the image file, and click **Next**. If you choose to restore a single partition, click **Yes** to launch the restoration process.

7. To restore the entire hard disk, please select a restore option.

    a. Select the checkbox to modify the destination partition size.

    b. Don't select it if you have information on multiple systems

    If you selected option **a**, double click the partition Capacity to be resized from the list. If you selected option **b**, skip to step 9.

8. When it shows the structure of the destination partition, double click the highlight and modify its size, and click **Next** to continue.

9. Click **Next** to begin the restoration process.

10. Click **Next** to complete the process.

2.2.3 Clone Tab

2.2.3.1 Clone Drive

Clone Drive duplicates one hard drive to another. It eliminates the need to re-install the

operating system, drivers and applications, and enables you to upgrade a new hard drive with only a few mouse clicks. To clone a hard drive, please do the following:

Tip

To use this function; you will need to have at least two hard drives on your computer.

The target hard drive should have enough space to store the data of the source hard drive.

1. Select **Clone** and then click **Clone Drive**.

2. Select the Source Disk (top pane) and then the Destination Disk (bottom pane). You can choose to modify the Destination Partition Size manually by selecting **Modify the destination partition size**. You can also choose not to modify the Destination Partition Size by selecting **Keep the partition size of the destination drive the same as the source drive**. Click **Next** to continue.

Tip

If you select **Keep the partition size of Destination Hard Disk the same as the Source Hard Drive**, please skip to step 4.

If the Hard Drive you want to clone is going to boot your system, please select **Keep the partition size of Destination Hard Disk the same as the Source Hard Drive.**

3. You can alter the Destination Partition size by double-clicking the entry of Destination Partition and change the size in a popup dialog box. Click **Next** to continue.

4. After confirming your selections, click **Clone Now** to proceed or you can click **Previous** to change your selection. If the system is busy, TotalRecovery™ will try to clone again automatically.

Note

The cloning process will overwrite all data on the destination disk. Click **Continue** to begin the cloning process. You can also click **Cancel** to exit.

5. Click **Return to Main Console** to complete the process.

2.2.3.2 Clone Partition

With TotalRecovery™ USB Key, you can copy data from the source partition into the destination partition. To clone a partition, please do the following:

1. Select **Clone** and then click **Clone Partition**.

2. Select a Source Partition in the Hard Drive (top pane).

Note

You can only choose one partition at a time.

The Source Partition and the Destination Partition cannot be the same.

3. Select a Destination Partition in the original Hard Drive or another Hard Drive (bottom pane), then click **Next** to continue.

Tip

The selected destination partition must have enough space to hold the data of the source partition.

4. After confirming your selections, click **Clone Now** to start the duplicating process or click **Previous** to change your selections. You can start the cloning process by clicking **Start Clone**. If the system is busy, TotalRecovery™ USB Key will try to clone again automatically.

Tip

The cloning process will overwrite all data on the destination disk. Click **Continue** to begin the cloning process. You can also click **Cancel** to exit.

5. Click **Return to Main Console** to complete the process.

2.2.4 Analyze Tab

2.2.4.1 Check Backup Image

In this section, you can check if the backup data in your complete backup image file is valid.

1. Select **Analyze** tab and click on **Check Backup Image** icon.

2. Enter the storage path of the image you want to check, and click **Goto** to select the image. You can also select the storage path of the image you want to check and click **Next**.

Tip

TotalRecovery™ USB Key can also check the image file stored on a mapped drive. For more detail about map network drive, please refer to **Configure Network Adaptor**.

3. Select to validate either the Complete or Incremental Backup point, and click **Next** to continue.

4. After validating the backup point, click **Finish** to complete the Image Integrity Check.

2.2.4.2 Check Hard Drive

In this section, you can check if the backup data in your complete backup image file is valid.

1. Select **Analyze** tab and click on **Check Hard Disk for Errors** icon.

2. Select the partition to be checked.

3. Do one of the following to launch checking process.

a. To check for errors without repairing them, click **Check Now** without selecting either of the check boxes above.

b. To check for and correct system errors, make the appropriate selections in the check boxes. And then click **Check Now**.

4. Click **Finish** to return to the main console.

2.2.4.3 Run Command Shell

The command shell executes programs and displays their output on the screen by using individual characters. You can use the command shell to create and edit batch files (also called scripts) to automate routine tasks. You can perform operations more efficiently by using batch files than you can by using the user interface.

1. Select **Analyze** tab and click on **Open Command Shell Window** icon.

2. Put in the command in the pop-up window and press **Enter** key.

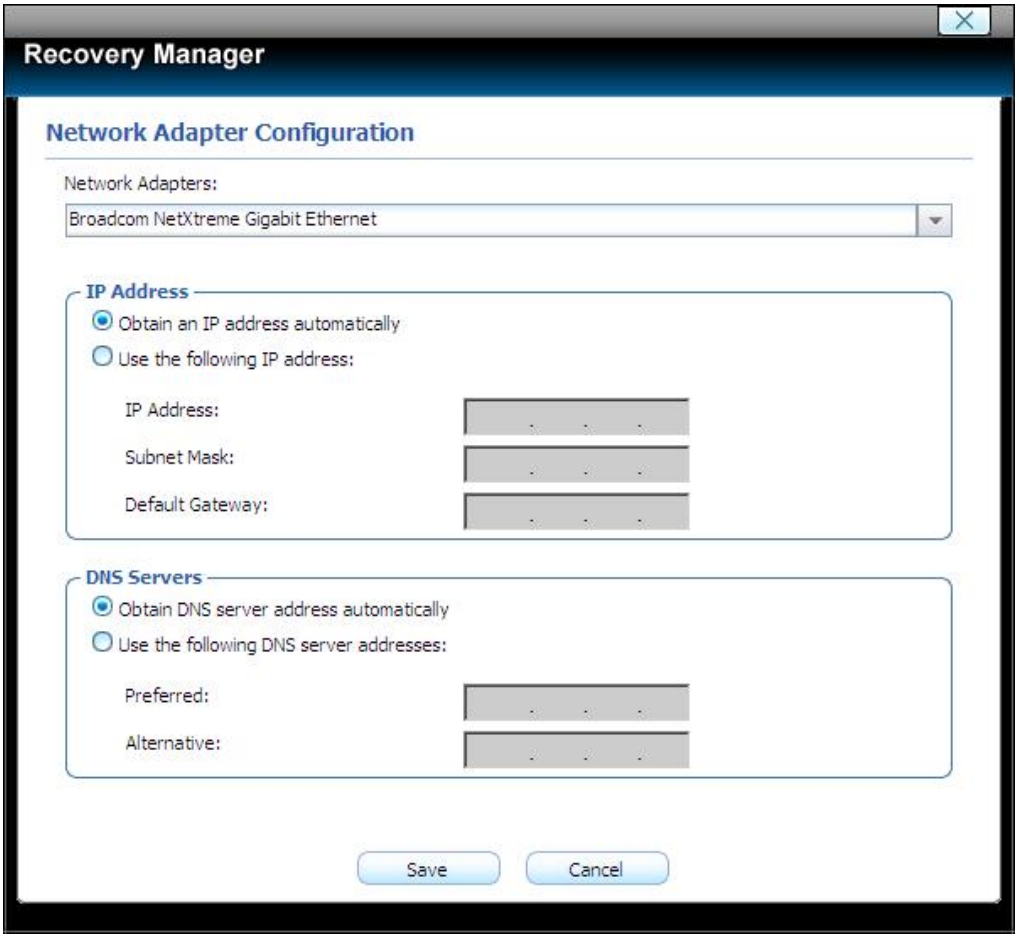
3. Close the window after the command completes.

2.2.5 Network Tab

2.2.5.1 Configure Network Adaptor

TotalRecovery™ USB Key can back up or restore from a network location. To use this feature, you should first configure your network settings. From here, you can configure the **IP Address Settings** and **DNS Server Settings**.

Click the **Network** tab and then select **Network Adaptor Configuration**. Or click the **Tools** menu and select **Settings**; you will see the following screen.



You can setup your network adaptor, IP address, Subnet mask and Default gateway from here.

If you have more than one network adaptor on your system, select the adaptor to be used from the dropdown menu.

IP Address Settings:

- Obtain an IP address automatically: If your network supports DHCP (Dynamic Host Configuration Protocol), this option will obtain an IP address automatically from a DHCP server or a Point-to-Point Protocol (PPP) dial-up network access server. TotalRecovery™ USB Key Client sets DHCP as the default option.

- IP address: Choose this option to manually specify an IP address for your network.

Use this option if there is a problem automatically obtaining an IP address, or if there s an IP addresses conflict.

- If your computer is on a Local Area Network (LAN), you can configure the LAN settings to back up or restore images from a network location.

DNS Server Settings:

- Obtaining a DNS server address automatically: DNS (Domain Name System) is an internet service that translates domain names into IP addresses. It is a system for name resolution, suitable for network computers with fixed IP addresses. TotalRecovery™ sets DHCP as the default option.

- Use the following DNS server address: Manually specify the DNS server address if needed. You can enter a preferred address or an alternative one (if the former one is unavailable).

2.2.5.2 Map Network Drive

In this section, you can use the network folder as the local one, and assign a drive letter for it. In doing so, you can access the image files in that folder more conveniently.

1. Select **Network** tab and click on **Map Network Drive** icon.

2. Select a drive letter from the drop-down list to map to the shared resource.

3. Enter the computer and share name of the resource in this form: **\\Server name\share name.** Or click **Browse** to locate the resource.

4. Click **Save**.

5. In the User name and password dialog box, type your user name in this form: **domain name\username**; enter your password if prompted.

After the network resource is connected successfully, you can access your data.

Note

All mapped drive(s) will be removed if you reboot or shut down this computer.

2.2.5.3 Launch Web Brower

Click the button, users will go through the website in PE.

2.2.5.4 iSCSI Initiator

First, ensure that the iSCSI initiator is installed on the machine. On Windows Vista, it is installed by default; other Windows systems require a download and manual installation. With this feature, users may connect to the iSCSI device and access a great deal of information and configuration options.

1. Click on the **Tools** tab, and select **iSCSI Initiator**.

2. Select the **Discovery** tab.

3. Click **Add** and enter the **IP address or DNS name** and **Port number** for the Target Portal on which you would like to log on.

4. If your Target Portal requires Chap for authentication, click **Advanced**. Then select the **Chap logon information** option and enter the **Target secret**. Click **OK** twice to return to the iSCSI Initiator Properties dialog.

5. Verify the **Target Portals** properties displayed on the Discovery tab.

6. Select the **Targets** tab to view a list of available targets which you can log on to. Note that the **Status** for these targets is shown as **Inactive** prior to login.

Tip

a. If your targets are not listed in the Targets tab, verify discovery and successful login by repeating Steps 3 through 6.

b. If you successfully log into the Target portal but the target is still not listed, verify that the target has Logical Unit Numbers (LUNs) assigned to the server.

c. If the target is still not listed, check the System Event Log for errors, resolve any issues noted in the log, and repeat Steps 2 through 5 to log on to the Target Portal.

7. Select the target that you want to log on to and click **Log On**.

8. Click **Advanced** and enter the username and password of the iSCSI target.

9. Verify that your target indicates "**Connected**" in the **Status** column.

2.2.6 Utilities

2.2.6.1 Preview Backup Image

1. Click **Tools** tab and select **Preview Backup Image** directly on the main interface of Restore.

2. Select an image you would like to preview and click **Next**. Or click **Browse** to select an image that is not listed in the dropdown menu. Click **Next** to continue.

3. Select a complete backup point or an incremental backup point and click **Next**.

4. Select the partition you'd like to preview and click **Preview** to begin previewing the image.

5. You can now browse and copy data on the preview drive in Windows® Explorer.

6. Click **Yes** to mount another backup image, or click **No** to return to main console.

2.2.6.2 Unmount Preview Drive

After you have finished restoring an individual file or folder, you can un-mount the preview partition.

1. Click **Tools** and then select **Unmount Preview Drive**.

2. Click **OK** to begin the unmounting process.

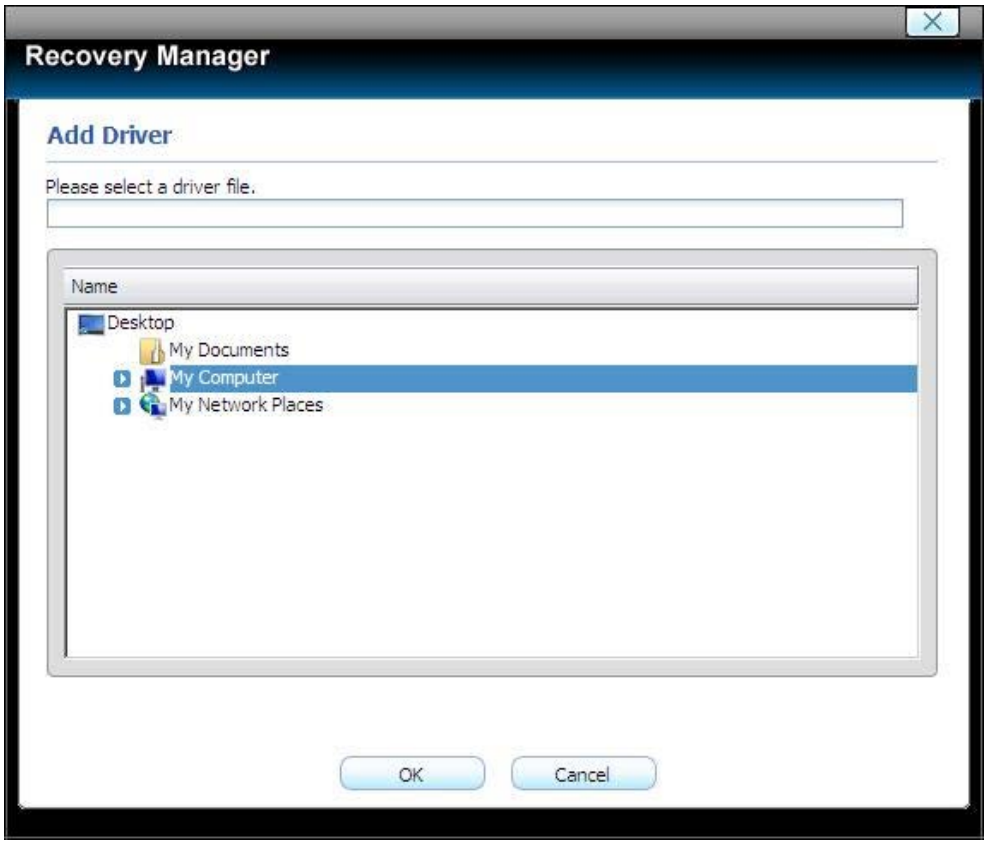
This operation will unmount all of the preview drives of Complete Backup image.

2.2.6.3 Add Driver

If TotalRecovery™ USB Key cannot detect a compatible and available driver for the application you need, you can install third party driver manually.

1. Select **Tools** tab and click on **Add Driver** icon.

2. Select the driver file on the local computer or on the network.



3. Click **OK**.

The added driver(s) can now work with the matched applications.

2.2.6.4 Open Explorer Window

Select **Utilities** tab, then click **Open Explorer Window,** files and folders on your computer will be displayed.

Chapter 3: Glossary

- **TotalRecovery™ Image**

  A TotalRecovery™ image is a file containing a complete copy of a computer's hard drive or partitions on that hard drive. With this image, you can transfer the contents of a hard drive to a portable medium such as a recordable CD/DVD, USB drive, or to another hard drive for later restoration.

- **Recovery CD/DVD**

  The Recovery CD/DVD allows users to restore their system by inserting this disc into their CD/DVD-ROM drive. Once the system is booted up, the Recovery CD/DVD will restore the system automatically based on the content contained on the Recovery CD/DVD.

- **Clone (Copy) Partition/Drive**

  "Cloning" will physically read the sectors on a source partition or disk, and subsequently copy the raw sector information to corresponding sectors of a destination partition or disk. The size, file system formats, brand of the source partition/disk and target partition/disk can be different.

- **System Partition**

  The system partition refers to the disk volume that contains the hardware-specific files that are needed to launch Windows (for example: Ntldr, Boot.ini, and Ntdetect.com). On dynamic disks, this is known as the system volume.

- **Boot Partition**

  The boot partition refers to the disk volume that contains the Windows operating system files (by default, in the WINDOWS folder) and its support files (by default in the WINDOWS\System32 folder). The boot partition can, but is not required to, be the same partition as the system partition. There will be one (and only one) system partition, but there will be one boot partition for each operating system in a multi-boot system. On

dynamic disks, this is known as boot volume.

- **Universal Restore**

  Universal Restore allows you to restore your system partition and active partitions to different hardware configurations or virtual machines, such as a replaced motherboard or hard drive controller.

Chapter 4: Appendix

4.1 Frequently Asked Questions

Q. Can I save the data on my hard drive directly to TotalRecovery USB?

A. No. TotalRecovery USB allows you to make complete copy of your hard drive or an individual partition and save it to your new HDD or SSD, a CD/DVD, a NAS or ISCSI device, any network share, or another USB key.

Q. What is TotalRecovery™USB, and what does it do?

A. TotalRecovery™ is a data backup and disaster recovery solution for Windows. It allows the user to create full image backups of their local disks, and store them to a location of their choosing. The backup images include all files, settings, programs and operating system files on the volume, and are an exact representation of the entire volume at the time the backup was created.

Q. What free trial software is available?

A. Because of the unique nature of TotalRecovery™ USB trial versions are not available. Please visit the software menu on our website for trial versions of other FarStone products.

Q. How do I get help if I need it?

A. If you are unable to find the solution you are looking for in the user manual, please obtain a Support Ticket to get in touch with our Technical Support.

Q. I've installed three operating systems on my computer, including Linux. Can TotalRecovery™ USB protect all three systems?

A. Absolutely. Because TotalRecovery™ USB creates an exact duplicate of the data on your hard drive without any installation. It provides protection regardless of how your disc is partitioned or the operating system.

Q. Can TotalRecovery™ USB protect my PC from a destructive virus?

A. TotalRecovery™ USB does not prevent any virus attacks. However, if your system is affected

by a destructive virus, you can restore your PC to a previously healthy state, effectively removing the virus.

Q. Does the Total Recovery™ **USB conflict with any other applications?**

Absolutely not. TotalRecovery™ USB runs outside of the Windows application.

Q. Where can I purchase FarStone products?

A. FarStone's software products can be downloaded from our online product pages, or purchased any of our reseller partners. If you originally purchased a FarStone product from an authorized Value Added Reseller (VAR), you may wish to contact your reseller to purchase additional products. To purchase any of FarStone's hardware solutions, please call +1-562-373-5370 and ask to speak with a representative.

Q. What are the latest prices?

A. The latest prices (MSRP) for FarStone Technology's software are posted on the website. Please contact your representative at +1-562-373-5370 for hardware prices.

Q. How are your products licensed?

A. Each product is licensed per machine, unless otherwise stated (i.e, purchasing a multiple license bundle). If you wish to install and activate the product on multiple machines, you will need to purchase additional licenses.

Q. Why couldn´t I install 64-bit driver for my RAID card in Pre-OS Recovery Manager?

A. Please use 32-bit driver and try again.

Q. Why can´t I see computer list in "My Network Places" when I want to back up or restore from a network shared folder within Recovery Manager? What should I do?

A. 1. We recommend you change the workgroup name of computers to default name "Workgroup". And then program will list all computers automatically.

2. Or, if you don't want to modify existing workgroup name, please map the shared folders by follow below instructions:

a. Click "Map Network Drive" on "Network" tab bar.

b. Enter the location of shared folder, user name, and password on input box.

c. If the computer you want to connect to is on a domain, you would enter the domain name, user name, and password. For example: domain\username.

d.If you are connecting to a computer in a workgroup, you would enter the remote computer name an user name. For example: remote_computer_name\username.

e. After mapping network drives, you can save your back image to a network folder.

Q. How long does it take to backup/restore a system using TotalRecoveryTM USB Key?

A: It depends on the amount of data on your system. However, TotalRecovery™ USB Key's unique technology minimizes the amount of time it takes to backup the system.

Q. If the source partition is a bootable partition (e.g. C:\) but the target partition is not, can the target partition be used to boot the system after restoration?

A: Yes, however please do the following:

1. Modify your boot.ini file.

a. If you are in DOS, enter the boot partition (C:\) and type "**edit boot.ini**" to modify this file.

b. If you are in Windows, the file **boot.ini** might be hidden. Select **Show hidden files and folder** from tools->folder options from the menu bar to show **boot.ini**, then open it (the default path to the boot.ini file is C:\boot.ini).

2. Add the following to boot.ini:

multi(0)disk(0)rdisk(X)partition(Y)\Folder=" Description "

X: is the HDD (hard drive) number, generally defined as 0 – 3. Number 0 is the primary master, 1 is the primary slave, 2 is the secondary primary and 3 is the secondary slave;

Y: is the partition ID, generally defined as 0-25, 0 is for the first partition.

Folder: is the place storing the boot file (this is not the boot.ini file). If your system is Windows NT/2000, it should be defined as WINNT. If your system is Windows XP, it should be

Windows.

Description: comments for the options listed on the splash screen at system startup.

Q. I cloned a hard drive using the Clone Drive function. Why can't I boot from the cloned drive?

A: This may happen if Norton GoBack is installed on your computer. Please uninstall Norton GoBack before cloning the drive.

Q. Are there any limitations when I restore from an image over the network?

A: TotalRecovery™ USB Key can restore an image file sized below 2GB when restoring from a network location. When backing up an image to a network location, TotalRecovery™ Express can automatically split the file into several volumes with a maximum size of 2GB each. You can select the first volume of the image series to be restored. But, if you select an image stored in an NTFS partition that is over 2GB, you cannot restore from it over the network. The image file must be copied back to the local computer to perform a successful restore.

Q. Why can't I find some Complete Backup Point Image Files that have been stored on the hard drive in Pre-OS?

A: If the Image file stored in the NTFS partition has been compressed already, the Image file can be recognized and restored both in Windows and Pre-OS. If you store the Image File in NTFS partition and then compress the NTFS partition, the Image file cannot be recognized and restored in Pre-OS. The solution is to copy the Image File in Windows to other partitions that have not been compressed.

Q. I try to back up the data to network computer. Why can't I access to the network computer's share folder after I have entered correct user name and password?

A: If you cannot back up the data to a network location, you may need to modify the Local Security Settings of the network computer. Please re-configure the Local Security Settings of the network computer to solve this issue.

1. After logging on the network computer, select **Start → Control Panel → Administrative Tools → Local Security Policy.**

2. Locate **Security Settings→Local Policies→Security Options** from the directory in the left pane.

3. Find the item **Network access: sharing and security model for local accounts** from the policy list in the right pane, double click it.

In the popup dialog box, select **Classic-local users authenticate as themselves**, and click **Apply**.